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REC'D 15 AUG 2003

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Dated 7 August 2003

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Patents Form 1/77

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Request for grant of a patent

(See the notes on the back of this form. You can also get an explanatory leaflet from the Patent Office to help you fill in this form.)



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The Patent Office
Cardiff Road
Newport
Gwent NP9 1RH

1. Your reference

85.78783

2. Patent application number
(The Patent Office will fill in this part)

0217273.2

25 JUL 2002

3. Full name, address and postcode of the
or of each applicant (underline all surnames)

Diomed Limited
Cambridge Research Park
Ely Road, Cambridge
CB5 9TE

Patents ADP number (if you know it)

UK

618421-0007

If the applicant is a corporate body, give
country/state of incorporation

4. Title of the invention

Laser System

5. Name of your agent (if you have one)

Frank B. Dehn & Co.

"Address for service" in the United Kingdom
to which all correspondence should be sent
(including the postcode)

179 Queen Victoria Street
London
EC4V 4EL

Patents ADP number (if you know it)

166001

6. If you are declaring priority from one or more
earlier patent applications, give the country
and the date of filing of the or of each of these
earlier applications and (if you know it) the or
each application number

Country

Priority application number
(if you know it)Date of filing
(day / month / year)7. If this application is divided or otherwise
derived from an earlier UK application,
give the number and the filing date of
the earlier application

Number of earlier application

Date of filing
(day / month / year)8. Is a statement of inventorship and of right
to grant of a patent required in support of
this request? (Answer 'Yes' if:
a) any applicant named in part 3 is not an inventor, or
b) there is an inventor who is not named as an
applicant, or
c) any named applicant is a corporate body.
See note (d))

Yes

Patents Form 1/77

9. Enter the number of sheets for any of the following items you are filing with this form. Do not count copies of the same document

Continuation sheets of this form

Description

2 / *Grant*

Claim(s)

3

Abstract

Drawing(s)

10. If you are also filing any of the following, state how many against each item.

Priority documents

-

Translations of priority documents

-

Statement of inventorship and right
to grant of a patent (Patents Form 7/77)

-

Request for preliminary examination
and search (Patents Form 9/77)

-

Request for substantive examination
(Patents Form 10/77)

-

Any other documents
(please specify)

-

11.

I/We request the grant of a patent on the basis of this application.

[Signature]

Date 25 July 2002

P.M. Jeffrey
01273 244200

12. Name and daytime telephone number of

person to contact in the United Kingdom

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LASER SYSTEM

The present invention relates to a laser system.

5 A laser device is known which receives in use an optical fibre. However, optical fibres particularly when used in medical applications may have a limited lifetime hygienically. The optical fibres may additionally/alternatively also have a limited lifetime
10 before they become susceptible to damage. Furthermore, the laser device and optical fibre may have been initially calibrated to deliver a certain intensity laser beam. The presence of dirt etc. on the optical fibre if the optical fibre is reused a number of times
15 may result in a lower than desired intensity laser beam being delivered.

It is therefore desired to provide a laser system wherein an operator can have a high level of confidence that the optical fibre is suitable for use especially
20 for medical applications.

According to a first aspect of the present invention, there is provided a laser system comprising:

25 a laser device having a housing arranged to receive an optical fibre; and
an optical fibre;
wherein, in use, the optical fibre transmits information to the laser device.

30 Preferably, the optical fibre comprises an AC or RF identification tag or transponder. The identification tag or transponder may comprise either a read only device or a read/write device.

35 The laser device preferably interrogates the optical fibre and the laser device preferably comprises an AC or RF identification reader. The optical fibre preferably transmits a signal to the RP identification reader.

According to a preferred embodiment, the optical fibre receives in use a power pulse. The optical fibre

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preferably receives AC or RF energy, stores the energy, and transmits back to the laser device data using the stored energy.

5 The optical fibre may transmit data relating to the type, state or usage of the optical fibre to the laser device.

The laser device preferably comprises a SMA-905 connector for receiving an optical fibre.

10 According to a less preferred embodiment, the optical fibre may comprise a barcode and the laser device may comprise a barcode reader.

15 According to another less preferred embodiment, the optical fibre may comprise a colour identification tag and the laser device may comprise means for identifying the colour identification tag.

Preferably the laser device interrogates the optical fibre in a contactless manner.

20 Preferably, in one mode of operation the laser device upon receiving information from the optical fibre prevents operation with the optical fibre.

Preferably, in one mode of operation the laser device will not operate if an optical fibre is inserted into the laser device and the optical fibre does not transmit any information to the laser device.

25 Preferably, the laser device may be enabled and/or disabled remotely, for example via a telephone link.

According to a second aspect of the present invention, there is provided an optical fibre comprising an AC or RF identification tag.

30 According to a third aspect of the present invention, there is provided a laser device comprising a reader for reading an AC or RF identification tag on an optical fibre.

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Claims

1. A laser system comprising:
5 a laser device having a housing arranged to receive
an optical fibre; and
 an optical fibre;
 wherein, in use, said optical fibre transmits
information to said laser device.
- 10 2. A laser system as claimed in claim 1, wherein said
optical fibre comprises an AC or RF identification tag
or transponder.
- 15 3. A laser system as claimed in claim 2, wherein said
AC or RF identification tag or transponder is a read
only device.
- 20 4. A laser system as claimed in claim 2, wherein said
AC or RF identification tag or transponder is a
read/write device.
- 25 5. A laser system as claimed in any preceding claim,
wherein said laser device interrogates said optical
fibre.
- 30 6. A laser system as claimed in claim 5, wherein said
laser device comprises an AC or RF identification
reader.
- 35 7. A laser system as claimed in claim 6, wherein in
use said optical fibre transmits a signal to said RF
identification reader.
8. A laser system as claimed in any preceding claim,
35 wherein said optical fibre receives in use a power
pulse.
9. A laser system as claimed in claim 8, wherein said

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optical fibre receives AC or RF energy, said optical fibre stores said energy, and transmits back to said laser device data using said stored energy.

5 10. A laser system as claimed in any preceding claim, wherein said optical fibre transmits data relating to the type of said optical fibre to said laser device.

10 11. A laser system as claimed in any preceding claim, wherein said optical fibre transmits data relating to the state of said optical fibre to said laser device.

15 12. A laser system as claimed in any preceding claim, wherein said optical fibre transmits data relating to the usage of said optical fibre to said laser device.

13. A laser system as claimed in any preceding claim, wherein said laser device comprises a SMA-905 connector for receiving an optical fibre.

20 14. A laser system as claimed in claim 1, wherein said optical fibre comprises a barcode.

25 15. A laser system as claimed in claim 14, wherein said laser device comprises a barcode reader.

16. A laser system as claimed in claim 1, wherein said optical fibre comprises a colour identification tag.

30 17. A laser system as claimed in claim 16, wherein said laser device comprises means for identifying said colour identification tag.

35 18. A laser system as claimed in any preceding claim, wherein said laser device interrogates said optical fibre in a contactless manner.

.19. A laser system as claimed in any preceding claim,

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wherein in one mode of operation said laser device upon receiving information from said optical fibre prevents operation with said optical fibre.

5 20. A laser system as claimed in any preceding claim, wherein in one mode of operation said laser device will not operate if an optical fibre is inserted into said laser device and said optical fibre does not transmit any information to said laser device.

10 20. A laser system as claimed in any preceding claim, wherein said laser device may be enabled and/or disabled remotely.

15 21. A laser system as claimed in claim 20, wherein said laser device may be enabled and/or disabled via a telephone link.

20 22. An optical fibre comprising an AC or RF identification tag.

23. A laser device comprising a reader for reading an AC or RF identification tag on an optical fibre.

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